

## Accelerator Controls Section

Test Procedure: assy #94028099 1300nm F/O receiver

Rev. No.: Revision A

Rev. Date: 7/18/95

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Equipment Used: 2 channel oscilloscope  
2 oscilloscope probes  
Previously tested 3U controls chassis w/ +/- 5V power supplies  
1 SMTX single mode transmitter module assy # 94028028  
1 TTL f/o transition module for transmitter assy # D09-E2495  
1 TTL f/o transition module for receiver assy # D09-E2542  
1 ECL f/o transition module for receiver assy # D09-E2541  
2 single mode f/o jumpers (if single mode transmitter is used)  
2 multimode f/o jumpers (if multimode transmitter is used)  
Source of AGS/Booster TIMELINE  
Optical attenuator  
Optical power meter  
100 ft twinax cable for TTL tests  
5 ft twinax cable for ECL tests  
Twinax to scope *adapter*

### 1.0. General Inspection

#### 1.1 Documentation

- a. Record Serial number.
- b. Record revision number of module.

#### 1.2 Physical Inspection

- a. Inspect front panel for defects.
- b. Inspect module assembly for workmanship to applicable IPC standards.

### 2.0 Electrical Tests

#### 2.1 Indicator test channel 1

- 2.1.1 Plug receiver under test into 3U chassis.
- 2.1.2 Turn power on.
- 2.1.3 Verify that both indicator lights on front panel are off.

#### 2.2 High optical input power test channel 1

- 2.2.1 Install optical transmitter & TTL transition module into an empty slot of 3U chassis.
- 2.2.2 Connect TIMELINE to one channel of f/o transmitter transition module.

- 2.2.3 Connect f/o jumper to selected channel on transmitter.
- 2.2.4 Using two f/o jumpers, connect optical attenuator between transmitter and power meter.
- 2.2.5 Adjust optical power to -16dbm.
- 2.2.6 Disconnect power meter and attach jumper to channel 1 of receiver.
- 2.2.7 Verify that LED for channel 1 turns on.
- 2.2.8 Verify that LED for channel 2 remains off.
- 2.2.9 Verify proper operation of receiver by viewing channel 1 TTL receiver outputs at transition module with 100 feet of twinax and scope adapter. (see output waveform, fig. 1) Amplitude and pulse width of signal should appear as shown.
- 2.9.10 Verify signal at front panel test point.

### 2.3 Indicator test channel 2

- 2.3.1 Remove signal from channel 1 and attach to channel 2 of receiver
- 2.3.2 Verify that LED for channel 2 is on.
- 2.3.3 Verify that LED for channel 1 remains off.
- 2.3.4 Verify proper operation of receiver by viewing channel 2 TTL receiver outputs at transition module with 100 feet of twinax and scope adapter output. (see output waveform, fig1 .).
- 2.3.5 Verify signal at front panel test point.

### 2.4 ECL output tests

- 2.4.1 Repeat steps 2.2 & 2.3 using ECL transition module, substitute 5 ft. of twinax for 100 ft.. Verify both sets of ECL outputs work for each channel.

### 2.5 Low optical input power test

- 2.5.1 Remove optical connection from receiver and reconnect to optical power meter.
- 2.5.2 Using optical attenuator, adjust optical power to -31dbm.
- 2.5.3 Disconnect power meter and attach jumper to channel 1 of receiver.
- 2.5.4.4 Verify that link active LED for channel 1 turns on.
- 2.5.4.5 Verify that link active LED for channel 2 remains off.
- 2.5.6 Verify proper operation of receiver by viewing TTL receiver output at transition module output. (see output waveform fig. 2) Amplitude and pulse width of signal should appear as shown.

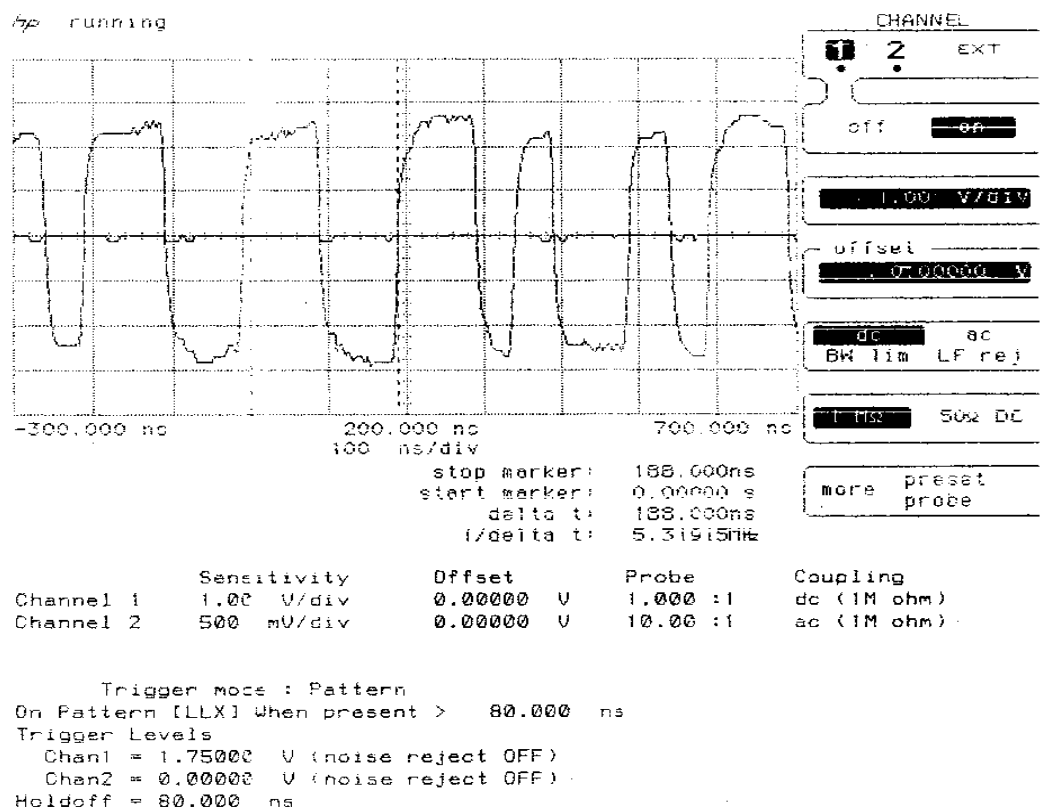


Figure #1

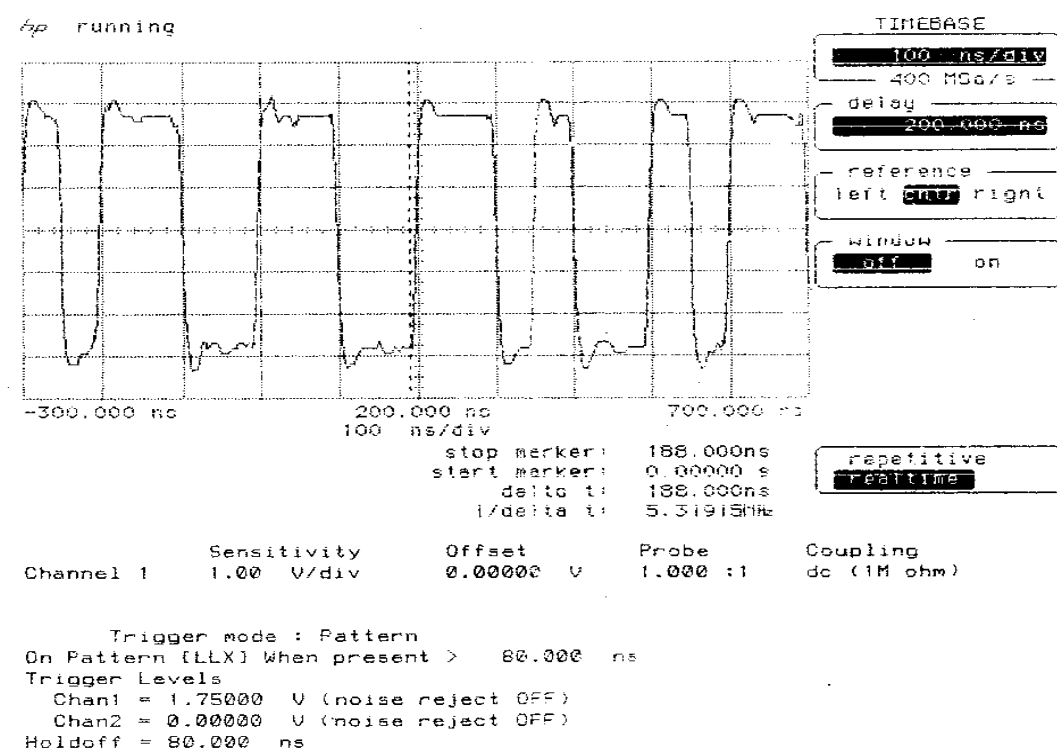


Figure #2